

REMARKS

The application has been amended and is believed to be in condition for allowance.

The indication that dependent claims 11, 14 and 15 recite patentable subject matter and would be allowable if amended in independent form is gratefully acknowledged.

Claims 7-15 remain in this application.

New claims 16-18 are introduced to further claim the invention. The new claims find support in the specification and the figures and introduce no new matter.

The specification has been amended to provide section headings.

The Official Action objected to the title.

Although the title originally filed with the application is believed to be acceptable, the title has been amended to obviate the Official Action's objection. Withdrawal of the objection to the title is respectfully requested.

The Official Action objected to the abstract, stating the abstract does not set forth the nature and gist of the invention in compliance with MPEP § 6.08.01(b).

In response, a new abstract is provided with this application and replaces the current abstract on file in order to obviate the Official Action's objection.

The Official Action also objected to claim 10 for the phrase "takes the form...". In response, claim 10 has been

amended to obviate the objection. Claim 13 has been similarly amended.

The Official Action also objected to the specification as failing to provide proper antecedent basis for the claimed subject matter in claim 10.

The objection is respectfully traversed with an amendment to the specification beginning at page 3, line 11 to provide antecedent basis for claim 10. This amendment to the specification finds support in claim 5 as originally filed with the application. It is therefore respectfully submitted that the amendment to the specification provides the necessary antecedent basis for claim 10 to obviate the objection without introducing new matter.

The Official Action objected to the drawings, stating that the drawings fail to illustrate i) the subject matter as set forth in claim 10, and ii) magnetoresistive elements being offset 45 degrees as set forth in claim 11.

As to claim 10, it is noted that the specification has been amended as stated above.

It is respectfully submitted that the magnetic flux generator at 6 in both Figures 1 and 2 is clearly illustrated as having an arc of at least of 120 degrees. See, for example, Figure 1 wherein the arc of 6 is bisected a horizontal hatched line, extending angularly in both directions almost to a vertical

hatched line, perpendicular to the horizontal. That is, an arc equal or greater than 120 degrees is clearly shown in Figure 1.

Figure 2 illustrates the same element 6 in a different angular position. Again using the hatched horizontal and vertical axes as references, it is clear that the element has an arc of at least 120 degrees.

Accordingly, it is submitted that Figures 1 and 2, as filed, show every feature of the invention as specified in claim 10. Withdrawal of the objection is respectfully requested.

As to claim 11, it is respectfully submitted that Figures 1 and 2 each contain two superimposed square boxes, each having a separate lead line running to reference characters 22 and 20, respectively.

It is respectfully submitted that square 22 in each of Figures 1 and 2 is clearly offset from square 20 by forty-five degrees, as required by claim 11.

It is also respectfully submitted that sensor 8 is indicated in Figure 1 with a curly-brace on its left enclosing reference characters 22, 20, and 24; that is, Figure 1 illustrates that sensor 8 comprises magnetoresistive elements 20 and 22 and microcontroller 24 as recited in claim 11.

Accordingly, it is submitted that the features of claim 11 are illustrated in Figures 1 and 2. Withdrawal of the objection is earnestly solicited.

The Official Action further objected to the drawings, stating that the reference character 24 has been used to designate both a microcontroller and magnetoresistive elements in Figures 1 and 2.

In response, it is respectfully submitted that Figures 1 and 2 both indicate that reference 24 point to a square box in the lower right corner of each of Figure 1 and 2, each square box having two pairs of wires emerging from its top referenced as 26 and 28, respectively.

In Figure 1, the reference number 24 is directly beneath reference numbers 22 and 20. However, element 24 does not have a lead line connecting the reference character with a magnetoresistive element, as elements 22 and 20 do. Instead, Figure 1 provides a lead line directly beneath element 24 extending to the same square box as is indicated for the reference number 24 in Figure 2.

Accordingly, it is respectfully submitted that reference 24 is used to designate the same microcontroller in Figure 1 as it does in Figure 2. Withdrawal of the objection is therefore earnestly solicited.

The Official Action objected to claim 1. The Official Action states that claim 7 contains informalities requiring correction.

In response, claim has been amended[?] to obviate the Official Action's objection and to sharpen the recitation of the

invention. Withdrawal of the objection is therefore respectfully solicited.

The Official Action rejected claims 7-10, 12, and 13 under 35 U.S.C. 103(a) as being unpatentable over Sidor (4,137,512; hereinafter SIDOR) in view of Hipp et al. (5,825,178; hereinafter HIPPP).

The Official Action states that SIDOR discloses a contactless magnetic field sensing device with a magnet 26 and magnetoresistive sensors 46,48 wherein the magnet comprises north and south poles. The Official Action states the use of a semi-circular magnet or a circular magnet is known in its related art for determining the rotational position of the object as taught by HIPPP.

It is respectfully submitted that neither SIDOR nor HIPPP, individually or in combination, teach or suggest a plurality of thin, rectilinear magnets of substantially equal size arranged on an annular surface as a series of adjacent, alternating poles aligned along a rectilinear axis running on the annular surface, as required by claim 7, as amended.

In contrast, SIDOR teaches two, semi-circular magnets of different sizes, each on a distinct annular surface of disk 38 (Figure 5; column 4, lines 28-35). Other embodiments of SIDOR teach only a single magnet (Figures 1, 2, and 4; column 2, lines 13-16), not a plurality of magnets as required by claim 7. None of the magnets disclosed by SIDOR are rectilinear, and SIDOR does

not teach the magnets arranged such that alternate poles are aligned along a rectilinear axis.

HIPP teaches a plurality of magnets arranged as a series of alternating poles on an annular surface (Figure 2).

However, as with SIDOR, HIPP fails to teach or suggest a plurality of magnets arranged along a rectilinear axis running on the annular surface, as required by claim 7.

In contrast, HIPP discloses a plurality of magnets curving along the outer periphery of a disc (Figure 2; column 3, lines 9-19). The magnets are neither rectilinear nor aligned along a rectilinear axis, as required by claim 7.

Therefore, it is respectfully submitted that neither SIDOR nor HIPP, individually or in combination, teach or suggest the plurality of magnets aligned along a rectilinear axis recited by claim 7.

It is also respectfully submitted that neither SIDOR nor HIPP, individually or in combination, teach a plurality of magnets generating a plurality of magnetic fluxes in directions substantially parallel to the rectilinear axis, as recited by claim 7.

Accordingly, it is respectfully submitted that claim 7 is neither anticipated nor rendered obvious by SIDOR in view of HIPP, and that claim 7 and claims depending therefrom are patentable.

Reconsideration and withdrawal of the anticipation rejection is earnestly solicited.

It is further submitted that new independent claim 16 is patentable for the same reasons outlined above pertaining to claim 7.

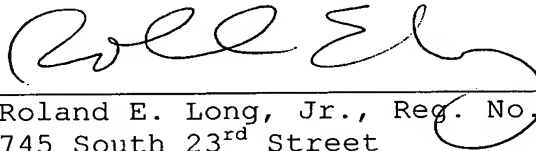
From the foregoing, it will be apparent that applicants have fully responded to the September 6, 2007 Official Action and that the claims as presented are patentable. In view of this, applicants respectfully request reconsideration of the claims, as presented, and their early passage to issue.

In order to expedite the prosecution of this case, it is requested that the Examiner telephone the attorney for applicants at the number set forth below if the Examiner is of the opinion that further discussion of this case would be helpful.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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APPENDIX:

The Appendix includes the following item:

- ☒ - a new or amended Abstract of the Disclosure